The Hidden Dangers of Erythritol: A Threat to Brain and Heart Health

Erythritol, a widely used plant-based sweetener found in low-carb and sugar-free products, poses significant health risks, according to recent research from the University of Colorado Boulder. Marketed as a safe, near-zero-calorie alternative to sugar, this sugar alcohol—derived from fermenting corn starch—has been linked to severe damage to brain and cardiovascular health, increasing the risk of stroke and heart attack.

The study reveals that erythritol, even at levels equivalent to a single sweetened beverage, causes a dramatic 1000-fold increase in blood plasma levels, from ~3.75 µmol/L to ~6480 µmol/L, persisting for up to two days. This prolonged exposure triggers harmful changes in blood vessels, particularly those in the brain. Treated cells showed reduced nitric oxide production, which impairs blood vessel relaxation, and increased endothelin-1, a protein that constricts vessels. Additionally, erythritol exposure diminished the body's ability to produce clot-dissolving compounds, while boosting reactive oxygen species (ROS) by ~75%, leading to oxidative stress that damages cells and tissues.

These cellular changes contribute to endothelial dysfunction, a key factor in heightened stroke risk. A large-scale study of 4,000 people further corroborated that higher erythritol levels correlate with an increased likelihood of heart attack or stroke within three years. Unlike naturally occurring erythritol, a minor byproduct of glucose metabolism, the industrially produced sweetener is not compatible with human physiology, as humans are obligate hyper carnivores suited to animal-based diets. The source material argues that plant-derived and processed foods, including erythritol, are inherently toxic, with the sweetener’s LD50 value indicating its potential lethality at high doses.

For the general public and health professionals, the message is clear: erythritol’s widespread use in processed foods, from keto bars to sugar-free sodas, demands scrutiny. Consumers are urged to avoid products containing erythritol or “sugar alcohols” and prioritize species-appropriate, animal-based diets to minimize health risks. The cumulative damage from repeated exposure to this sweetener underscores the need for caution, as even occasional consumption can have lasting effects on vascular and neurological health.